EPA
United States
Environmental Protection
Agency

The Presidential Green Chemistry Challenge Awards Program

Nomination Package for 2004 Awards

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The Presidential Green Chemistry Challenge Awards Program: Nomination Package for 2004 Awards

Contents

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Scope of the Program

THE PRESIDENTIAL GREEN CHEMISTRY CHALLENGE was established to recognize and promote fundamental and innovative chemical methods that accomplish pollution prevention through source reduction and that have broad applicability in industry. The Challenge is sponsored by the Office of Pollution Prevention and Toxics of the United States Environmental Protection Agency in partnership with the chemical community. For the purposes of this program, green chemistry is defined as "the use of chemistry for source reduction." Source reduction is the highest tier of the risk management hierarchy as described in the Pollution Prevention Act of 1990.[1] Green chemistry involves a reduction in or elimination of the use or generation of hazardous materials, including feedstocks, reagents, solvents, products, and byproducts, from a chemical process. Green chemistry encompasses all aspects and types of chemical processes, including synthesis, catalysis, analysis, monitoring, separations and reaction conditions, that reduce impacts on human health and the environment relative to the current state of the art.

THE PRESIDENTIAL GREEN CHEMISTRY CHALLENGE AWARDS PROGRAM was established to recognize technologies that incorporate the principles of green chemistry into chemical design, manufacture, and use. The evaluation of the new technology's impact will include considerations of the health and environmental effects throughout the technology's life cycle with a recognition that incremental improvements are necessary.

THE PRESIDENTIAL GREEN CHEMISTRY CHALLENGE AWARDS PROGRAM is open to all individuals, groups, and organizations, both nonprofit and for profit, including academia, government, and industry. *The nominated green chemistry technology must have reached a significant milestone within the past 5 years in the United States (e.g., been researched, demonstrated, implemented, applied, patented, etc.).*

For 2004, EPA's Office of Pollution Prevention and Toxics is particularly interested in technologies that reduce or eliminate the following: lead; mercury; perfluorinated alkyl surfactants; polychlorinated or polybrominated biphenyls; or persistent, bioaccumulative, and toxic substances.

This nomination package contains concise instructions on how to enter the competition. Entries must be postmarked no later than December 31, 2003. Awards will be presented in summer 2004, in Washington, DC.

Scope Focus Areas

Nominated green chemistry technologies should be an example of one or more of the following three focus areas:

1. **The use of alternative synthetic pathways for green chemistry, such as:**
   - Catalysis/biocatalysis.
   - Natural processes, such as photochemistry and biomimetic synthesis.
   - Alternative feedstocks that are more innocuous and renewable (e.g., biomass).

2. **The use of alternative reaction conditions for green chemistry, such as:**
   - Use of solvents that have a reduced impact on human health and the environment.
   - Increased selectivity and reduced wastes and emissions.

3. **The design of safer chemicals that are, for example,**
   - Less toxic than current alternatives.
   - Inherently safer with regard to accident potential.

Selection Criteria

Green chemistry technologies nominated for an award will be judged based on whether they meet the following criteria (where applicable):

1. The nominated chemistry technology must fall within the scope of the program and at least one of the focus areas.

2. The nominated chemistry technology should offer **human health and/or environmental benefits**. The technology might, for example:
   - Reduce toxicity (acute or chronic), illness or injury, flammability, explosion potential, emissions or other releases, transport of hazardous substances, or use of hazardous substances in reaction processes.
   - Improve usage of natural resources, such as renewable feedstocks.
   - Enhance biodiversity.

3. The nominated chemistry technology should be **generally applicable** to a large and broad-based segment of chemical manufacturers, users, or society at large. The nominated technology should offer at least the following:
   - A realistic approach to green chemistry.
   - A remedy to a real environmental management problem.
   - Features that can be transferred readily to other facilities, locations, and industry sectors.

4. The nominated chemistry technology should be **innovative and of scientific merit**. The technology should be, for example:
   - Original (i.e., never employed before).
   - Scientifically valid. That is, can the nominated technology or strategy stand up to scientific scrutiny through peer review? Has the mechanism of action been thoroughly elucidated through sound scientific research?

IMPORTANT: The judging panel will look for as much detail (nonproprietary) as possible about the nominated technology. Specifics of the chemistry, including comparisons to an existing technology, toxicity data, quantities of hazardous substances being reduced or eliminated, degree of implementation in commerce, and other technical, human health, environmental, and economic benefits, will both assist the judging panel in evaluating your nomination and enhance the prospects of your nomination winning.

Award Categories

Approximately five awards will be made. One award will be made to each of the following:

- A small business[2] for a project in any of the scope focus areas.
- An academic investigator for a project in any of the scope focus areas.
- Any sponsor for a project in focus area 1 (the use of alternative synthetic pathways for green chemistry).
- Any sponsor for a project in focus area 2 (the use of alternative reaction conditions for green chemistry).
- Any sponsor for a project in focus area 3 (the design of safer chemicals).

How to Enter

Self-nominations are allowed and expected. There is no entry fee and no standard entry form, but certain requirements must be met. Entrants must submit a typed, single-spaced nomination that is no longer than eight pages, written in 12-point type on 8½-by-11-inch paper with 1-inch margins. ***Nominations longer than eight pages total will not be accepted.***

The nomination must include the following:

1. A one-page cover sheet with a project title followed by the complete names (with titles), addresses, telephone numbers, fax numbers, and e-mail addresses (if available) of the following individuals or organizations:
   - **Primary sponsor** (individual or organization that owns the project or, in the case of academic projects, is the principal investigator).
   - **Contact person(s)** (individual who is responsible for communications with the awards program sponsors). For academic nominations, the contact will likely be the principal investigator. For government and industrial nominations, the contact will likely be a project manager or other *technical* representative. Industrial nominations may also include a public relations contact.
   - **Contributor(s)** (individual or organization that provided financial or technical support for project development or implementation). Providing information on contributor(s) is optional.

2. The cover sheet should be followed by a page containing the following information:
   - Project title.
   - Statement affirming that the nominated technology has been researched, demonstrated, implemented, and/or applied in the United States within the past 5 years. Include a description of the most recent milestone(s) and date(s). Examples include, but are not limited to, pilot plant constructed, results published, patent application submitted, and technology commercialized.
   - Statement indicating whether the nominated technology is eligible for either the small business or academic award.
   - Statement indicating within which of the three focus areas the nominated project can be categorized. (If the nominated technology falls within more than one focus area, a primary focus area should be designated.) If you are unsure, make a note and EPA will review the classification.
   - A technical abstract not to exceed 200 words that briefly describes the nominated project.

3. The third page should consist of a one-page executive summary of the nominated project. Please repeat the project title on this page.

4. The remaining five pages can be used to detail how the nominated project meets the selection criteria. Explain the following:

   - How the technology meets the scope and focus area(s) of the Presidential Green Chemistry Challenge program.
   - All human health and/or environmental benefits of the technology.
   - The chemistry of the new technology, emphasizing how the technology is innovative and of scientific merit.

   (Some criteria might not apply to every nominated project. Such instances should be indicated where appropriate.)

There is no limit on the number of entries that may be submitted by one sponsor. Each project, however, must be nominated as a separate entry and submitted separately.

All entries received will be considered public information. No material will be returned. Program sponsors are not responsible for lost or damaged entries. EPA acknowledges receipt of nominations, usually by e-mail. If you have not received an acknowledgement by mid-January, please contact Richard Engler at 202 564-8740.

You must submit an original hard copy and an electronic copy of the nomination. The electronic copy may either be e-mailed to engler.richard@epa.gov or sent on a floppy disk, Zip™ disk, or CD, clearly labeled with the primary sponsor, computer format (Windows or Macintosh), and file name(s). The nomination must be postmarked no later than December 31, 2003. The mailing address (USPS only) is:

U.S. Environmental Protection Agency
Mail Code 7406M
Presidential Green Chemistry Challenge
Attn: Richard Engler
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Nominations may also be sent via overnight shipping services. Please use the following address when shipping:

Presidential Green Chemistry Challenge
Attn: Richard Engler
U.S. Environmental Protection Agency
EPA East, Room 5133
1201 Constitution Avenue, NW
Washington, DC 20004

Judging Entries

A panel of technical experts selected by the American Chemical Society will judge the entries. These experts might include members of the scientific, industrial, governmental, educational, and environmental communities. Judges may request verification of any chemistry described or claims made in entries that are selected as finalists. The judges will select award recipients based on the chemistry projects or programs that best meet the selection criteria.

Notification of Winners

Winners will be notified prior to the official public announcement, which will be made in summer 2004, in Washington, DC. A crystal sculpture will be presented to the primary sponsor of the winning green chemistry project in each of the five award categories. Certificates will be presented to individuals (as identified by the primary sponsor) who contributed to the research, development, or implementation of the chemistry.

Additional Information

Questions about eligibility, nomination procedures, or the Presidential Green Chemistry Challenge program should be directed to Richard Engler of EPA's Industrial Chemistry Branch at 202 564-8740.

Footnotes

[1]Pertinent sections of the Pollution Prevention Act of 1990:

Sec. 6601. SHORT TITLE.

This subtitle may be cited as the "Pollution Prevention Act of 1990."

Sec. 6602. FINDINGS AND POLICY.

(b) Policy. - "The Congress hereby declares it to be the national policy of the United States that pollution should be prevented or reduced at the source whenever feasible."

Sec. 6603. DEFINITIONS.

For the purposes of this subtitle -

"(5)(A) The term "source reduction" means any practice which:

(i) reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal, and

(ii) reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants."

[2]A small business is defined here as one with annual sales of less than $40 million, including all domestic and foreign sales by the company, its subsidiaries, and its parent company.

Sample Cover Page

Please use the format below for the cover page of your nomination.

Title of Nomination

Primary Sponsor:
Full name
Title
Address
Phone
Fax
E-mail (if available)

Contact Person(s):
Full name
Title
Address
Phone
Fax
E-mail (if available)

Contributor(s):
Full name
Title
Address
Phone
Fax
E-mail (if available)

- **Primary sponsor**–Individual or organization that owns the project. In the case of academics, the principal investigator.
- **Contact person(s)**–Individual available for communication about the nomination.
- **Contributor(s)**–Individual or organization that provided financial or technical support for the nominated project.

Award Nomination Checklist

Your nomination should include the following components: (see "How to Enter" for further details)

- Cover page.
- Technical abstract (200 words or less).
- Statement affirming that the project has been researched, demonstrated, implemented, and/or applied in the United States within the past 5 years. Include the most recent milestone(s) and date(s).
- Statement indicating whether the nomination is eligible for either the "Academic" or "Small Business" category.
- Statement identifying which of the three focus areas described on pages 1 and 2 is the most applicable to the nomination project. (Other focus areas may also be identified).
- Executive summary (one page).
- Project description (5 pages or less).
- An original hard copy of the nomination.
- An electronic copy (either by e-mail or on disk). Note: Irradiation of Federal mail may damage electronic media.

United States
Environmental Protection Agency
(7406M)
Washington, DC 20460

Official Business
Penalty for Private Use $300

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